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April 21, 2000

Magalie Roman Salas, Secretary  
Federal Communications Commission  
Counter TW-A325  
The Portals, 445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

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APR 21 2000  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: Ex Parte Submission of Northpoint Technology, Ltd.  
ET Docket No. 98-206/RM-9147, RM-9245

Dear Ms. Salas:

In accordance with Section 1.206 of the Commission's rules, 47 CFR § 1.1206, this letter is written to notify you that Antoinette Cook Bush, Executive Vice President of Northpoint Technology, Ltd. ("Northpoint") spoke with Mr. Harry Ng of the International Bureau on Thursday, April 20, 2000. The issues discussed are summarized in the documents attached hereto.

An original and six copies of this letter and its enclosures are submitted for inclusion in the public record for the above-captioned proceedings. Please direct any questions concerning this submission to the undersigned.

Respectfully submitted,



Cheryl L. Hudson  
Counsel for Northpoint Technology, Ltd.

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List ABCDE

Magalie Roman Salas  
April 21, 2000  
Page 2

cc: Ari Fitzgerald  
Tom Derenge  
Michael Marcus  
Tom Stanley  
Thomas Tycz  
Michael Pollak  
Julius Knapp  
Julie Garcia  
Kim Baum  
James Burtle  
Harry Ng

April 21, 2000

Mr. Harry Ng  
International Bureau  
Federal Communications Commission  
The Portals, 445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Re: ET Docket No. 98-206, RM-147, RM-9245

Dear Mr. Ng:

With this letter I want to clarify some of the points made in Northpoint's March 30<sup>th</sup> *Ex-Parte* submission presentation. At that meeting we discussed Northpoint's deployment in different areas within the United States and the need to use a variety of techniques to accomplish our dual objectives of providing protection to DBS and high quality coverage to our customers. This range of deployment methods is typical of terrestrial systems. For this reason Northpoint has advocated a regulatory approach that specifies a required result, rather than a required method. For Northpoint this would mean a specific requirement for a minimum Carrier to Interference Ratio ("C/I ratio") over inhabitable areas, for example. Once this requirement was defined, it would be up to Northpoint to use whatever techniques it had available to accomplish this result.

The reason we believe that a minimum C/I over inhabitable areas is a good approach is that it provides 100% protection to all DBS customers now and in the future. Once a Northpoint deployment was in place and met the regulatory standard there would be no need for on going coordination with DBS (as new DBS customers are added) since 100% of all inhabitable areas would be protected. As described in our recent presentation, "uninhabited areas" would include bodies of water, national parks, quarries, cemeteries, roads and similar areas where habitation is not possible.

In our presentation Northpoint also showed two available antenna patterns, and provided examples of the type of sites where a particular pattern might be employed. Northpoint presented the C/I contours that would result from use of a particular antenna in the location described. The point of the presentation was to demonstrate how Northpoint could accomplish sufficient protection to DBS in all cases by using a variety of techniques. Northpoint did not intend to indicate that the two antenna patterns shown were all that were available, or that use of the specific antennas should be a requirement. These two antenna patterns that were provided in this presentation should be understood as representative examples only. (See Exhibit 1 for additional information.) They are by no means the only antenna patterns or mitigation techniques available to Northpoint. You may recall that in the meeting Saleem Tawil mentioned a new antenna design he is

developing and that may be available in the future. New technology, such as these developments from Mr. Tawil and others, may provide even greater flexibility in Northpoint deployments in the future.

Another mitigation technique available to Northpoint is shielding of the Northpoint transmitter, a technique that may be employed to assist with protection to DBS in certain cases. For example, during the Washington testing at Northpoint's Fort Lincoln location Northpoint demonstrated a simple shielding method that reduced near in C/I ratios by 5-10 dB. This result was presented to the FCC in Northpoint's November 12, 1999 *Ex Parte* filing and a copy of the relevant slide is attached as Exhibit 2 for your review.

As you can see from the above discussion, Northpoint has a wide range of techniques available to accomplish the dual goals of providing protection to DBS and high quality service to its customers. This is why we advocate a regulatory approach that specifies a result – in C/I ratios over inhabitable areas – rather than a method of accomplishing the result. We believe this approach guarantees protection to DBS, now and in the future, while giving Northpoint the option of using a full range of current and future technologies to accomplish these goals.

Should you have any other questions or need additional information, please do not hesitate to contact the undersigned.

Sincerely,

  
Antoinette Cook Bush  
Northpoint Technology, Ltd

Cc: Ari Fitzgerald  
Tom Derenge  
Michael Marcus  
Tom Stanley  
Thomas Tycz  
Michael Pollak  
Julius Knapp  
Julie Garcia  
Kim Baum  
James Burtie

## Exhibit 1

### Northpoint Antenna Pattern Information

In its recent presentation to the FCC, Northpoint described two antenna patterns. One was an antenna with 17 degree vertical beam width. This antenna was used in Northpoint's experimental program. Northpoint is also developing other transmit antennas, including antennas that will have a narrower vertical beam width. An example transmit antenna with a 10 degree vertical beam width was also described in the meeting. Both antenna patterns are depicted in Figure 1. The power flux density levels produced at the ground by the two antennas are depicted in Figure 2. The equations for these two antenna patterns are provided in Table 1.

Other antennas may be employed in different situations based upon the need for a particular pattern to achieve Northpoint's dual goal of providing protection to DBS and high quality service to its customers.

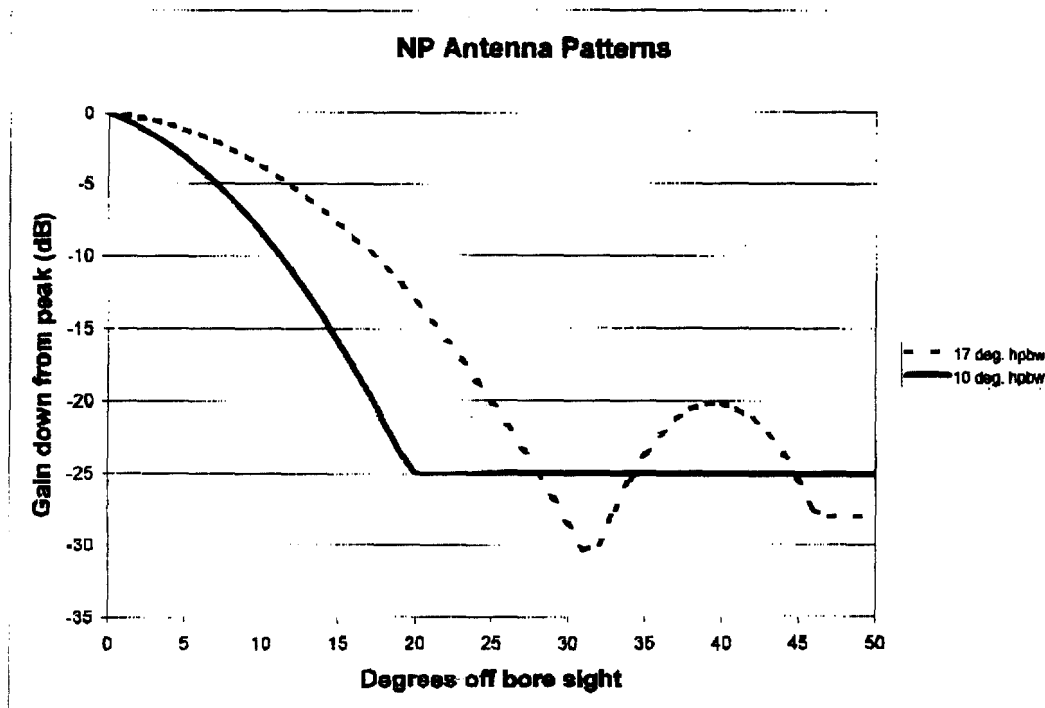
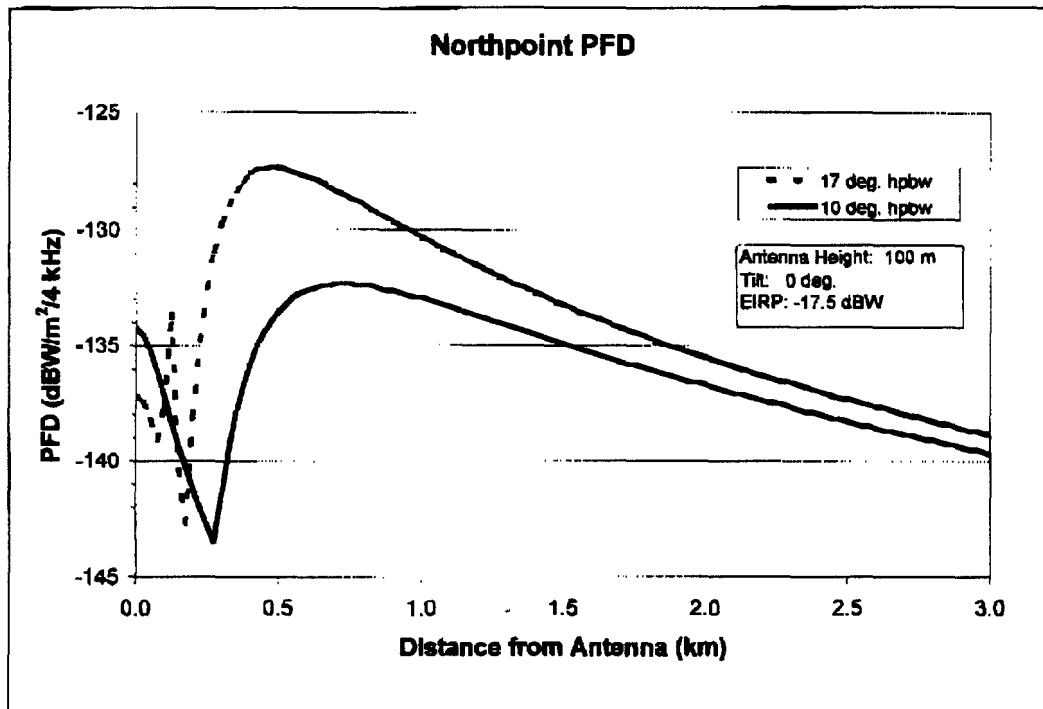


Figure 1. Sample Northpoint transmit antenna patterns.

# Exhibit 1



**Figure 2. Comparison of power flux density levels with different transmit antenna patterns**  
(calculated in accordance with p. 6 of exhibit C to Northpoint Technology Ltd. March 17, 2000  
*Ex Parte* Submission).

**Table 1. Sample Northpoint antenna patterns.**

Pattern	Off bore sight angle	Gain (dB down from peak)
10 Degree Vertical*	$0 < \theta < 19.66$	$G = -0.0448 * \theta^2 - 0.3904 * \theta$
	$\theta > 19.66$	$G = -25$
17 Degree Vertical	$0 < \theta < 31.6$	$G = -0.029 * \theta^2 - 0.08 * \theta$
	$31.6 < \theta < 46.2$	$G = -0.175 * \theta^2 - 293.2 + 13.825 * \theta$
	$\theta > 46.2$	$G = -28$

\*Antenna gain envelope presented based on specification. Actual antenna performance is anticipated to exceed specification.

## Exhibit 2

## *Highly Localized Mitigation Techniques Can Benefit Northpoint*

- In our Washington field test, we successfully demonstrated near-in transmitter shielding as a mitigation method at both the USA Today and the Fort Lincoln site
- At Fort Lincoln the repeater was set back from the building face, in order to shield the ground near the transmitter, resulting in a 5-10 dB reduction in power level
- This significantly reduced the area within the 15 and 20 dB contours that had been forecast based on free space loss factors alone
- Techniques of this nature can completely eliminate the risk of harmful interference to all DBS households in the Northpoint service area